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The diameter of the sun, in a horizontal direction, was measured just after the transit, and found to be $= 31' 30.8''$.

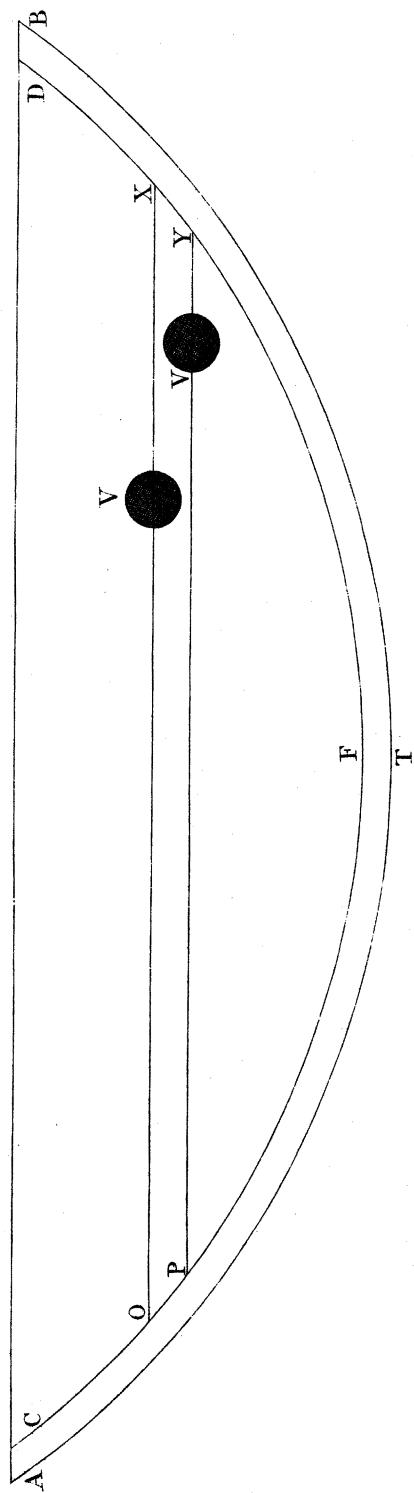
The clock at Savile-House was several times compared with my clock in Surry-Street, from Friday evening, the 5th June, to Monday evening, the 8th June; so that I am as sure of the time at Savile-House, as if the observation had been made at my house in Surry-Street.

Ja. Short.

XXXIV. *Observations on the Transit of Venus, June the 6th, 1761, made in Spital-Square; the Longitude of which is $4' 11''$ West of the Royal Observatory at Greenwich, and the Latitude $51^{\circ} 31' 15''$ North; by John. Canton, M. A. and F. R. S.*

Read Nov. 5, 1761. **H**AVING measured the diameter of Venus, on the sun, three times, with the object-glass micrometer, the mean was found to be 58 seconds; and but $\frac{6}{10}$ of a second, the difference of the extremes *.

* With the same micrometer, the diameter of Venus was measured, off the sun, twelve times, March the 29th, 1758, about noon; and the mean was $1' 1'' 42'''$; whence the diameter, at the time of the transit, ought, by computation, to have been $1' 9'' 19'''$.



The diameter of the sun, from four observations very nearly agreeing with each other, was $31' 33'' 24'''$.

	h.	m.	f.
The time, by the clock, of the internal contact, was - - - - -	8	17	4
Of the external contact -	8	35	27
Of noon - - - - -	11	58	$24\frac{1}{2}$
Therefore the apparent time of the first contact, was - - - - -	8	18	41
Of the last contact -	8	37	4

The two positions of Venus on the sun's disc, [*Vide Tab. VI.*] in chords parallel to the equator, were determined by frequently measuring the parts of such chords on each side the centre of the planet, with the object-glass micrometer; which was done with difficulty, both on account of the clouds, and the telescope's not having an equatorial motion.

Let the arc *ATB* represent a part of the sun's limb; let *CFD* be parallel to it, at the distance of a semidiameter of Venus; and let *OVX* and *PVY* be parallel to the equator. At $7^h 14^m 39^f$ A. M. apparent time, *OV* was $14' 43''$, and *VX* $5' 32''$. At $7^h 57^m 21^f$, *PV* was $16' 36''$, and *VY* $1' 56''$.

These observations were all made with a reflecting telescope of 18 inches focal length, which magnified about 55 times.